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FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

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METHODS OF ANÆSTHESIA.

The discussion of this subject by the Central Society, which appears on another page, brings out many instructive details, from which one broad moral may be drawn. It shows that we have still much to learn regarding the whole subject. We have no ideal method of anæsthesia yet—perhaps we may never have. At present, the improvement of our methods offers a wide field for research. While it is being worked, every practitioner ought to study carefully the details of our existing methods, and note their advantages and drawbacks, and so help to obtain the best results with them.

The last remark is, perhaps, more true of local anæsthesia, particularly as applied to the smaller animals. First there is the technique; for no local anæsthetist will ever be a good one unless he exercises care and intelligence in injecting. Secondly, there is the choice of the drug. Cocaine, our earliest local anæsthetic, is probably still more used than any other. Its toxicity was recognised directly its use was established; and many attempts, none of which have quite fulfilled expectations, have been made to find a substitute for it. That cocaine should have held its place so long says much for its value; but it also illustrates the imperfection of our methods.

General anæsthesia and narcosis also have their difficulties. One, connected with the very popular morphia-narcosis of the dog, was mentioned at the Central Society's meeting. We all now admit that morphia, with or without the addition of a local anæsthetic, enables us to perform most of the operations of canine practice without the risk of chloroform. But the equally indisputable though yet unexplained fact that morphia sometimes causes delirium instead of narcosis in dogs is certainly a grave objection to it. Possibly the combination of scopolamin with morphia, which does not seem to have been sufficiently tried by veterinarians, might lessen the danger of this accident; but it might also deprive morphia-narcosis of some of its present safety.

We have repeatedly pointed out the need for more discussion of these methods by clinicians; and the present discussion serves to illustrate that need. Anæsthesia is firmly established in veterinary surgery, and will become even more common in the future: but we still have very much to learn regarding it; and perhaps some of us rather underestimate its importance. It is a subject which will well repay the closer attention of practitioners.

TWO UNUSUAL CASES OF MILK FEVER.

By ARNOLD SPICER, F.R.C.V.S., New Oxted, Surrey.

The first case was a Jersey heifer, second calf, calved Saturday night and went down Sunday morning, looking like a fairly bad case: the curious part was that she got on her legs before I had left the yard. She went down again on Monday night, seen last at 6 o'clock quite well, down and unconscious at 9 o'clock, was injected at 10.30, when she was completely unconscious, but was on her legs again at 1 o'clock.

The second case was a Guernsey cow which slipped her calf a month before her time and had just an ordinary attack of milk fever. One would naturally expect that she would be some time coming to her full milk, and would, therefore, be a most unlikely subject for this complaint. She had not been dried off, and was giving about two quarts of milk a day.

UMBILICAL HERNIA—OPERATION.

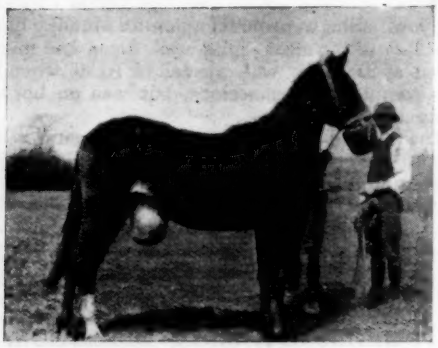
The subject of this operation was a yearling filly by Rockaway. When foaled she appeared to be all right, but a week later the hernia began to show and increased to the size of an orange, when a local registered man was called in. He put three or four interrupted sutures through the skin and left them to rot out.

When I first saw the filly it presented much the same appearance as shown in the photograph, but was not so pronounced.

I had her put in a box and kept on a small quantity of short, hard food for a month; she was kept without food for twenty-four hours before the operation. For the operation she was placed in the dorsal position supported with sacks, and a man each side; the operation area was disinfected and swabbed with iodine.

An incision was made in the skin about three inches from the bottom of the enlargement, and it was then found that varicosed veins ran from the abdomen to the thickening at the bottom of the sac. This caused considerable hæmorrhage, and the dissection of the skin from the abdominal wall was a long and difficult matter, owing to the inflammation set up by the sutures. When the dissection was finished an incision was made about two inches from the top of the thickened portion and the abdominal muscle was cut half-way round. I then found that there was a further complication—the bowel was adherent to the base of the sac and this had to be dissected away. When the base of the sac was removed it was found to be about three inches thick, it consisted of thickened skin and ab-

dominal muscle, weighed three to four pounds, and when placed on the ground looked just like the cap a farrier puts his nails in. It was then necessary to remove a circlet of the abdominal muscles about three inches wide: this muscle had been stretched by the weight of the base until it was only a little over a quarter of an inch thick. A piece of old linen (previously boiled with the instruments) was then spread over the bowels and tucked in between the abdominal wall and the bowels—a tip for which I have to thank Mr. Caulton-Reeks—it is an excellent idea, as you have no further trouble with the bowels, it keeps any blood on the surface and you can mop it up, and it protects the bowel from pricks with the needle.



I could easily pass my two hands through the opening now left in the abdominal wall. Six supporting sutures were now put in place, passing through the skin and abdominal wall, being knotted at each end to prevent them being pulled out. The abdominal muscles were next sewn up, and then the skin was brought together; finally the supporting sutures were tied over all.

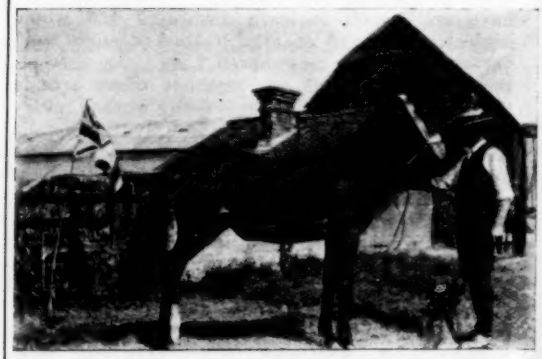
The operation took two and three quarter hours, the filly had fourteen and a half ounces of chloroform. The owner, who had seen a lot of farming in the Argentine, proved a most capable assistant.

The ropes were now taken off; the operation started at 11.30 but the filly did not get up until the following morning about 10.30 although she sat up soon after the ropes were taken off. When she got up she walked about on her hind fetlocks for a little time, and started grazing. When she got on to her feet was taken into a box and really made an uninterrupted recovery, feeding better every day. Her temperature varied between 103 and 104.5 for the first week and then settled down to normal. The interrupted sutures were removed on the seventh day, the end to be cut was saturated with iodine, cut and then pulled through, and evidently no infection was carried through by the silk. The suture material used was Huish's Rhea Fibre, or vegetable silk, which I find very useful as it is very strong and does not cut.

The second photograph shows the filly's condition two months after the operation, the skin wound has completely healed up and the abdominal muscles have joined up perfectly. The slight bulge shown is due to the thinness of the abdominal muscles, and if these recover their tone and thicken up again there will be nothing to show that there was ever anything the matter with the filly.

This is one of the cases in which a clamp would have been fatal, unless the sac had been opened first and the bowel dissected away and replaced in the abdomen.

Looking back over the cases of umbilical hernia that I have seen, I cannot remember one that did not occur in either a first or last foal. It would be interesting to hear other practitioners' experiences in this matter.



MORPHIA AND ATROPIA INJECTION.

In my remarks on Professor Wooldridge's paper on "Local Anæsthesia," read before the July meeting of the Central Veterinary Society, I stated that according to Professor Frohner the use of subcutaneous injections of a mixture of atropia and morphia for the diagnosis of shoulder lameness in horses was frequently followed by constipation colic. I find, on referring to Professor Frohner's Toxicology, that I was in error in stating that the mixture was used diagnostically, it appears that the injection is applied curatively. The experience of practitioners in the use of this remedy quoted by Frohner is so opposed to that of many English veterinary surgeons that I take the liberty of asking you to publish a few quotations from the article.

"Atropia poisoning in horses is most frequently observed in consequence of the employment of the combination of atropia and morphia injected against shoulder lameness as recommended by Temple. The combination is dangerous through the atropia drying up the secretion of the salivary and intestinal glands (leading up to drying of the intestinal contents), and through the morphia paralysing intestinal movements. Thus can easily be induced stoppage with its consequence, tympanites and stomach rupture.

Meimeke applied the injection (atropia $\frac{3}{4}$ grain, morphia 3 grains) to an officer's charger suffering from acute shoulder lameness. In ten minutes the pupils dilated, and a little later the tongue was protruded. There was inability to swallow. There was tumultuous heart action and the pulse could not be counted. The horse struck

at the walls of the box with the fore feet. Next day the animal was again normal.

Schodte, using the same injection on a heavy Percheron, had similar experience."

The experiences of many other practitioners who used the injection are quoted and testify to the frequency with which it was followed by symptoms of colic, tympany, trembling, excitement, straining, and in some cases by death.

It appears that shoulder lameness in horses is much more common in Germany than in this country, and it seems remarkable that a remedy frequently employed in England against colic is blamed for producing it by German authors.

Enfield. W. R. Davis.

THE CENTRAL VETERINARY SOCIETY.

[National V.M.A. Southern Branch.]

An ordinary general meeting of the Society was held at 10 Red Lion Square, London, W.C., on Thursday, July 6th, Mr. W. R. Davis, President, in the Chair.

The following Fellows signed the attendance book:—Messrs. B. S. Cockerton, J. C. Coleman, R. J. Foreman, G. S. Heatley, H. D. Jones, Herbert King, F. C. Mahon, J. W. McIntosh, T. S. Price, Fred. G. Samson, Prof. G. H. Wooldridge, J. Willett, and Hugh A. Mac Cormack, Hon. Secretary. Visitors—Mr. R. C. Trigger and Lieut. P. Connolly, A.V.C.

The minutes of the last meeting were taken as read and confirmed, as proposed by Mr. Willett and seconded by Mr. Price.

Correspondence. The Hon. Secretary announced that he had heard from the following Fellows, regretting their inability to be present:—Maj. F. J. Taylor, A.D.V.S., and Maj. W. S. Mulvey.

Calculi in Kidney and Bladder of a Bitch.

The President introduced a case of calculi in the kidney and in the bladder of a bitch, remarking that such cases were common: but what had induced him to submit the specimen to the meeting was the fact that he had made a mistake in diagnosis. The bitch had been ailing for nine months, the symptoms being inappetence and vomiting, although these were not continuous. The animal sometimes appeared to be all right, but ultimately she commenced to pass fœtid and bloody material from the vulva, causing soiling wherever she urinated. The speaker had been called in two or three times in the course of some two months, and he had, in the first place, regarded the bitch as suffering from some gastric derangement, inasmuch as she had not developed the condition of the urine referred to until within about two months of being put away. Six or eight weeks before her death, he had been called in to see her.

She was a fox terrier, very vicious, and difficult to handle. After muzzling her, he succeeded in making a fairly good examination, in spite of the animal's wrigglings and the fact that he had no one but the owner to help him. He felt that she had quite an enlargement in the abdominal cavity, and from the material which the animal passed, and from the symptoms, he concluded that she was suffering from chronic catarrh of the uterus. What was felt he conjectured was a solid uterine horn distended with the peculiar red fluid with which we are all familiar. He explained to the owner that he could do nothing for the bitch, unless by opening her to make certain of the diagnosis. This the owner would not hear of, and it was decided that the dog should be put away. The speaker had then put her in the lethal chamber, and made a *post-mortem* in the presence of the owner. He had been surprised to find that there was nothing wrong with the uterus, but the bladder was enormously large and distended with innumerable calculi, some as large as a walnut, and hundreds of various sizes from a pea to a pin-head. The right kidney was converted into a huge cyst, in which were several calculi. It struck him as peculiar that there should be such a fetor from what the bitch passed from the vulva. He had been told that the house had been quite offensive by it; and that was the main reason why the dog was got rid of.

Mr. Coleman asked what was the composition of the calculi, and was told that they were probably composed of triple phosphates.

Prof. G. H. Wooldridge enquired whether the President had counted the calculi, as it would be interesting to reckon them and record the number; for the bladder of a dog the number appeared to be unprecedented. (The President pointed out that the calculi were not all present in the specimen). Continuing, Prof. Wooldridge said the size was also remarkable considering the quantity of the calculi. The offensive condition of the urine was not uncommon; cystitis was set up with invasion of the urethra by organisms of the colon type, which occasioned the very objectionable odour of the urine in these cases. It was easy to see the difficulty of a good diagnosis in cases of that sort. A bitch having a certain amount of pain naturally objected to its abdomen being manipulated; the latter would become so tense that it was not possible to tell the consistency of things internal. Personally, in such cases, he administered morphia for the diagnosis, apart from operation, and had the President done that, the speaker believed that he would have been able to distinguish the consistence of the calculi, and would not have been under the difficulties he referred to.

In answer to Mr. Price, the President stated that the left kidney was normal; that he had attended the dog for altogether about nine months, but not continuously. Frequently the bitch was fairly well. When she became bad, refusing her food and vomiting a good deal, he had been sent for. The extraordinary part of it was that the animal was in good condition. In further reply to Mr. Price, the President remarked that the mucous membrane of the bladder was greatly inflamed; it was in a condition of cystitis. In answer to another question, he stated his agreement with the remark of Prof. Wooldridge namely that cystitis had caused the fetor of the urine.

Gangrene of Udder in the Cow.

Mr. Coleman referred to the case which had been brought forward by Mr. Almond respecting gangrene of the udder. Mr. Almond had stated that he had found no good treatment. In the speaker's experience for four year previous to the last two years, he had no less than fourteen cases successfully dealt with, a third part of the udder being, in the majority of cases, gangrenous. It had been his practice to cut round the udder about a quarter of an inch above the line of demarcation, and then to break down all the tissues with the hand. He removed the quarter affected or the whole of the udder, as required, and in all fourteen cases with complete success. He thought that was the only treatment. It was remarkable that no hæmorrhage worth speaking of resulted from this breaking down of the tissues by the hand.

The President, commenting upon Mr. Coleman's experience, pointed out that nature, without the interference of the surgeon, was often good enough to slough out the whole lot. To this Mr. Coleman replied that nature occupied a long time in the process.

Mr. Willett observed that the consensus of opinion at the meeting referred to had been that it was not a

case of gangrene of the udder that Mr. Almond had brought forward.

Mr. WILLETT submitted a specimen of the broken neck of a horse, laying stress upon the fact that the seventh cervical was broken into thirteen pieces. He disclaimed responsibility for putting the specimen together, as this work had been carried out in such an admirable manner by the farrier in charge.

The history of the case was that he was called one morning to the barracks, and told that a horse had met with an accident in the riding school. The animal was being trained as an officer's charger, and, on the occasion of the accident, instead of taking the jump, rushed it and fell on its head, causing considerable damage to the rider. The horse was got up, walked two or three yards and went down again. When the speaker saw the patient he was down, but he was helped on to his legs again, when he walked a few steps and then fell. The horse was then hobbled and put on to the jumping gate, and tied there, the troopers carrying him to the sick lines over 100 yards away. He was then put into the sling box and attempts made to lift him up. When raised from the ground, he practically jumped out of the sling, putting his fore feet into the manger, and struggling so much that he had to be let down. A more careful examination was then made, but the speaker was unable, by manipulation to find any fracture of the neck. The animal showed a certain amount of concussion, and it was at first thought that it was the only result of the accident. A message was 'phoned to the officer owning the animal explaining matters, and permission was given to call in another opinion if necessary. Next day the horse was still unable to rise but was feeding, with normal temperature, good pulse, and he was eating and drinking fairly well. As on the second day, the horse did not rise, the speaker consulted Prof. Wooldridge, who manipulated the neck in every way possible without finding any decided evidence of a fracture nor causing any serious constitution disturbance. The horse took his food out of a bucket, raising his head when eating or drinking. He was turned daily without showing any untoward symptoms in the turning.

This continued until the fourth day, when the animal began to show symptoms of congestion of the lungs, and as he was still unable to rise the opinion was given that the animal would not recover. Receiving instructions from the camp to destroy the horse if there was no chance of recovery, the speaker injected chloroform into the thoracic cavity until the animal's heart stopped.

On examination of the specimen, it would be seen that the seventh cervical, as he had stated, was broken into thirteen pieces, while the sixth had a piece off the wing, and the fifth was broken, as shown.

It was remarkable that the horse showed little disability except that he could not rise. He could move all four legs, and when struggling would often attempt to rise. One would have expected collapse after the animal had been slung and the severe struggling following; moreover, the turning once or twice daily might have been expected to produce serious symptoms.

Mr. PRICE enquired whether the horse could hold his head up, to which Mr. Willett replied that it could do so, and put it in a bucket to feed.

The PRESIDENT shared Mr. Willett's surprise that the animal had not shown fatal symptoms when struggling in the slings. It recalled to his mind a case in which a horse had got a hind foot in the throat lash of the head stall. Next morning he was found down. Slings were put under him, but as soon as he was off the ground his head gave one twist and he was dead in two seconds.

Prof. WOOLDRIDGE explained that, like Mr. Willett, he had been unable to diagnose the fracture. The details now given by Mr. Willett were exactly those observed by the speaker, except he (the speaker) noticed that when the animal made an attempt to rise, he appeared more like a horse with some paralysis of the extensors of the foot—the condition seen with injury to the nerve supplying the *extensor pedis*. The horse, however, appeared to have plenty of power in his limbs above that region, and his ability to move his neck freely upset calculation. It was decided that it was concussion of the brain that was probably responsible for the symptoms, with a fair prospect of extravasated blood or other liquid being absorbed. It was considered worth while giving the horse a chance. The only other alternative he suspected was possible fracture of the odontoid process of the second cervical vertebra. That was, apparently, perfectly normal, it was the seventh cervical which was so badly crushed, while the sixth and fifth were also involved in the fracture. With such a fracture, the amount of power in the limbs was remarkable. The difference in this case of a broken neck, as compared with the numerous cases in which a fatal termination is quickly reached, was this—that the spinal cord itself could not have been very badly lacerated; otherwise it would have interfered with respiration and circulation, and must have proved fatal.

Mr. WILLETT agreed with Professor Wooldridge's remarks, but was impressed by the fact that the daily turning did not further lacerate the spinal cord or show untoward symptoms.

Mr. WILLETT then offered the specimen to the College museum, an offer accepted, with thanks, by Professor Wooldridge.

Several other members took part in the discussion, and the consensus of opinion was, that the position of the fracture rendered the diagnosis most difficult, owing to the depth of the muscles in that region; but all agreed that the specimen was most interesting and the extent of the fracture out of all proportion to the symptoms shown, more especially that the animal lived so long after the accident and showed so little constitutional disturbance.

Mr. R. J. FOREMAN desired to refer to a case which might probably furnish a morbid specimen. A bitch had been lined by a stray dog. It was three months since she was in season. She managed to crawl into the house in a state of collapse and in great pain, passing much blood *per vaginam*. He thought it unusual for a bitch to take lining three months after season. She was an Irish terrier, and had had one litter of pups two years ago.

MALPOSITION OF STOMACH IN A PUPPY.

Mr. COCKERTON brought forward the case of a puppy about six weeks old, suffering from constipation. He had at first advised a little Castor oil and an injection of warm soap and water, and the owners were to let the speaker know if that course failed. Later he was informed that the puppy was very bad and very sick. He requested that it should be brought to his surgery, which was done. On his handling the puppy, however, it died. Owner stated that he had got a little hard motion from it. On opening the puppy he was surprised to find the stomach anterior to the diaphragm.

In the general discussion which followed it was brought out that the stomach was in the thoracic cavity, that the dog had been sick for two days, that there had been no passage from the bowels during that time, that the dog had been breathing normally until sickness supervened, and that no other organ than the stomach was through. The case was accepted as a congenital one.

Prof. WOOLDRIDGE had had a similar case under observation for a long period. The dog was a fox terrier, brought to him for persistent vomiting, soon after the original outbreak of Stuttgart disease, when what were regarded as chronic forms of that disease were not uncommon. There were no other symptoms than per-

sistent vomiting, loss of condition, and, occasionally, an offensive smell from the mouth. The trouble was not amenable to treatment, and persisted for weeks without relief. The dog was then killed, and examination revealed the presence of the stomach in the thorax. The œsophageal foramen through the diaphragm was very thin. The problem to him resembled the question, which was first, the egg or the hen? Was the persistent vomiting the cause of the stomach having passed through into the thorax, or was the abnormal position of the stomach the cause of the persistent vomiting? He had never been satisfied on the point. There were no other abnormal organs in the thorax; of course, the duodenum passed through the œsophageal foramen.

Replying to the President, the speaker stated that there was nothing to indicate respiratory or thoracic troubles. In response to further questions, he explained that the stomach was between the two posterior lobes of the lungs, immediately in front of the diaphragm.

He had also had experience of the liver of a cat being half-way through the diaphragm, one half in the thorax and the other in the peritoneum, the gall bladder lying just in between the two.

The PRESIDENT had seen a similar condition in the case of a thoroughbred foal—recorded in *The Veterinary Record* four or five years ago. The foal appeared to get broken-winded, having a distinct broken-winded cough. The owner had decided, as the foal would never make a race-horse, to have it destroyed. While the speaker was hesitating about destroying the animal it was seized with a violent colic, and died. The *post-mortem* revealed a number of organs through the diaphragm—the stomach, spleen, a great part of the liver, and part of the intestines were in the thoracic cavity. In that case there was a huge hole in the diaphragm, which was not a rupture but a congenital orifice.

LOCAL ANÆSTHESIA.*

By PROF. G. H. WOOLDRIDGE, F.R.C.V.S.,
Royal Veterinary College, London.

DISCUSSION.

Mr. COLEMAN had been intensely interested in the use of morphia since Prof. Hobday had given, in that Council Room, an illustration with a little terrier. He would enquire whether cocaine solutions, and other similar mixtures in solution would keep indefinitely. For local anæsthesia he had used "Eudrenine" formerly, with great success even in large operations. Adrenalin was one of the ingredients of this preparation. The bottle from which I am now using, however, is somewhat old, and latterly it has not produced local anæsthesia so successfully. In a big operation he had recently conducted on a dog, he had difficulty in getting complete local anæsthesia, and had administered morphia. After waiting some time without any good effect, he discovered, as it were accidentally, the very thing proposed by Prof. Wooldridge, *i.e.*, the great advantage he found in a hypodermic injection of morphia before administering chloroform, as it did away with the excited stage so common with dogs when administering chloroform. He would ask Prof. Wooldridge whether he rightly understood that gentleman to say that the maximum dose of cocaine for injection was two grains in the case of a large dog? (Prof. Wooldridge stated here that two grains was the maximum for a large dog, or three grains for a very large dog).

Mr. R. J. FOREMAN was obliged to Prof. Wooldridge for his paper, as he considered that the subject was not brought forward sufficiently often. Veterinary surgeons were, perhaps, somewhat slack in using local anæsthesia, for dogs particularly. He had found the best results from the use of cocaine, from the point of time and other considerations. He had accidents with it, but, perhaps, the coffee suggestion would help in future. The speaker had experience of many cases of dropsy in dogs after operating upon them—not for liver or heart trouble—quite simple operations for which morphia was used. In this connection, he would like to ask Prof. Wooldridge if he had any corroborative data. This occurrence of dropsy following upon operations had been a bugbear to the speaker. He would remark that he used morphia with atropine. Perhaps the fact that he used for dogs the same injection that he employed for horses might have some relation to the matter. In answer to the question, he might say that the operations referred to were general, not abdominal—no history of liver or heart trouble originally, so far as he could judge.

The PRESIDENT stated that in his experience of administering morphia to small dogs, particularly pugs, they were apt to become frenzied after the operation. In one instance his groom and himself were occupied some four hours in holding the dog, as he was yelling and twisting himself up into a knot. The dog howled and screamed, and was absolutely frantic. Had Prof. Wooldridge had any such experience? Another question: Had Prof. Wooldridge used atropia and morphia as a local, and not as a general, anæsthetic? The Germans used it very commonly for the diagnosis of shoulder lameness. It had been suggested that cases of fatal constipation in horses followed the use of morphia and atropia for diagnosis of shoulder lameness. Professor Frohner, in his work on Toxicology, stated that deaths from constipation were common among horses so treated. He would like to add that several cases of death among horses had, during the last ten years or so, been published in *The Veterinary Record*, from which it appeared that fatal results followed the injection of cocaine, for diagnosis of foot lameness, injected along the plantar nerves. In the discussion of the cases recorded there was some dispute as to cause of death, the fatal effects of both cocaine and of morphia respectively being denied.

Mr. TRIGGER stated that his experience was chiefly with horses and with general anæsthesia. It was now a simple matter to administer chloroform standing. In our own practice the animals were rarely cast; only the chloroform muzzle was used. In the days when the speaker had qualified—he had been forty-six years in one town—very little anæsthetic was used for dogs. Nevertheless, he congratulated the younger members of the profession upon their pioneer work. He agreed with Prof. Wooldridge's remarks, and hoped that no operation, even of a minor character, would be performed on patients without anæsthetics. Prof. Wooldridge had so covered the ground that the speaker could not enlarge upon the matter. He, with others, was a learner, and he thought the meeting had learned much that evening.

Mr. WILLETT desired to put one or two questions to to Prof. Wooldridge. The speaker had great difficulty and disappointment in connection with operations upon cats, and he would ask the Professor what he considered to be the safest general anæsthetic for these animals. He had found the administration of chloroform to cats led to serious problems. Local treatment of the eyes provided difficulty; particularly in the case of dogs and cats, but even with horses, rubbing was a cause of trouble; animals with an affection of the eyes were constantly rubbing them if not restrained, and he had derived great benefit in adding cocaine to the lotion to be applied. The difficulty was that the eyes would be doing well one day, and become worse the next, perhaps, in the case of a horse, through rubbing against

* The paper on this subject appeared in our issue of July 22nd, pp. 37-39.

the manger, or, with dogs and cats, rubbing with paws. As the veterinary surgeon could not always be in attendance on the patients, it was difficult to restrain them from rubbing, especially when attending at the owner's house. He had found some advantage in using cocaine, and would like to know if Prof. Wooldridge used any anæsthetic in his lotions in such cases.

Mr. JONES wished to ask Prof. Wooldridge if morphia was an anæsthetic or a sedative for horses at all. He had given horses as much as 10 or 12 grains of morphia, but had not been able to note a diminution of pain or any quieting of the animals.

Mr. TRIGGER remarked that many years ago he had tried morphia, but, getting no marked beneficial effect, he had given it up.

The PRESIDENT said that someone, writing in *The Veterinary Record* a short time ago, had stated that he had given a horse 12 grains of morphia, to quieten the animal while being shod, and obtained good results. The speaker had done the same thing, after having tried chloral and other things, which had little effect in quietening a restive horse; in this case the horse—a four-year-old hunter—was shod without difficulty. Perhaps the animal proved more amenable to treatment, but at any rate, on that occasion, the horse was shod more easily than previously. (Mr. Price suggested that the common practice of giving opium some eight hours before shoeing worked well).

Prof. WOOLDRIDGE then replied to the discussion, answering the questions *seriatim*. To Mr. Coleman he would say that cocaine solutions would not keep indefinitely, as that gentleman's experience itself showed. Indeed, the speaker regarded that fact as responsible, to a great extent for the bad opinion entertained, as to the use of local anæsthetics in the minds of people not using them frequently. Where long intervals elapsed between the applications of the solution from the same bottle, the latter having been on a shelf for, perhaps, months, the cocaine would be absolutely useless on the second application. It was, of course, better for the practitioner to make up his solutions as he went along, and not to buy stock solutions unless frequently using them. (Mr. MacCormack here enquired whether the Professor had tried eye-discs. Prof. Wooldridge said that the use of eye-discs was a good plan it the case of eyes). Another way was to get cocaine in tabloids, in which form it does not "go off." If facilities for weighing grains were absent, the solution could be made from the tabloid. Burroughs, Wellcome put up eye-discs of cocaine and adrenalin compounds for local anæsthesia. They were small and fine, and when slipped under the eyelid the patient did not seem to mind their presence at all; they dissolved quickly and the effect was good. As to the maximum dose, he had answered Mr. Coleman already; the three grains would apply to such large animals as the mastiff or great Dane. It was rarely necessary to apply the maximum amount. Two grains of cocaine in a one per cent. solution meant 200 minims of liquid. That could be infiltrated into a very large area, and would produce considerable and complete anæsthesia. A preparation called "Waite's Anæsthetic," was largely used in human dental surgery, and he would recommend its employment particularly for small dogs. Its active principle was one per cent. of cocaine, but it contained other drugs assisting the action of cocaine, and, at the same time preventing its deterioration. It was, moreover, perfectly safe, and could be injected in small pups in reasonable quantities—5, 10, or 20 minims. A fox terrier could take a dram, or even two, with absolute safety. In reply to Mr. Foreman, accidents with cocaine were experienced by all members of the profession. He had found the greatest proportion of accidents in injections made in the region of the head; he was chary of injections of cocaine for operations on the ears, jaws, or lips, as compared with injections of the same amount in the limbs. Cocaine poisoning was more probable in the cases first mentioned.

Digressing for a moment, he would say that the hypodermic injection of morphia did not yield anything like such beneficial results for operations on the head as in the case of those on limbs or trunk. He did not know whether this had ever been worked out from the pharmacological point of view, but that was his experience clinically.

Mr. Foreman had referred to cases of dropsy following the use of morphia and atropine. The speaker had had no such experience, although he had used morphia alone and in combination with atropine in numerous cases, hundreds, or even thousands. The dropsy was, he thought, more likely to be due to interference with the circulation, and inasmuch as atropine was the finest cardiac stimulant known, unless used in very large doses, when it might have depressing after effects, he did not anticipate any serious results. He was, therefore, at a loss to explain Mr. Foreman's cases, too numerous for the long arm of coincidence.

With regard to the occurrence of frenzy after the use of morphia, that was another experience of all practitioners—cases here and there. There were cases in which the idiosyncracy to morphia was such that instead of narcosis, excitation resulted. In one or two cases he had advised veterinary surgeons to use morphia, and had expatiated on its benefits. A day or two after, the surgeons had returned to him seeking his blood. In one case particularly of a pig (such as mentioned by the President), the veterinary surgeon came to the College about the matter, and the speaker told him that he was about to operate on a pug, and he would inject morphia and show the effect. He had done so, and could not have had a better example of the benefits of morphia. The veterinary surgeon went home, and used morphia for a collie, and had the same trouble as with the pug. He returned to Prof. Wooldridge for an explanation, saying that he supposed he had used some bad morphia, from a local man. That was not the case; it was merely a misfortune that he had two cases in succession of this peculiar idiosyncracy. Since then the practitioner had used it frequently, and would not give it up. In some instances morphia was an excitant to horses, and not a sedative. The speaker had no experience in the use of morphia and atropine as a local anæsthetic for diagnosis for shoulder lameness, referred to by the President. He was glad it had been mentioned, as he did not know that morphia was of direct service in that way.

Prof. Wooldridge expressed his doubts of the statement that morphia combined with atropine would produce fatal constipation, since atropine was an important alimentary stimulant; it stimulated peristalsis, and was often given in the form of belladonna with nux vomica for the treatment of constipation. (It was here observed that its effect was to dry the mucous membrane, which Prof. Wooldridge admitted; atropine and belladonna, given in small doses, reduced all secretions except those of the kidney, but only produced constipation if given in repeated doses; single doses had not that effect). As to the cases of the death of horses after injection of cocaine along the plantar nerve, there was no doubt of the facts, but it did not follow that the injection of cocaine, unless given in large doses, was the cause of the death.

Prof. Wooldridge the more appreciated Mr. Trigger's comments as he had venerated Mr. Trigger from his boyhood, from the time when he first knew what a horse or a dog was, since they hailed from the same locality. Mr. Willett's question as to general anæsthetics was rather wide of the paper, but fitted in quite well. The safest general anæsthetic for a cat was, in the

speaker's opinion, the A.C.E. mixture, *i.e.*, alcohol 1 part, chloroform 2 parts, ether 3 parts. He often used chloroform for a cat. It should be applied by the open method, so as to give plenty of air; once the cat was under, it should be changed to A.C.E.; it was necessary to be very watchful. When about to amputate a cat's leg a few days ago, he had administered chloroform. During the operation, however, the animal stopped breathing, and seemed to have completely collapsed. Artificial respiration was practised, a couple of minims of prussic acid put on its tongue, and amyl-nitrate held to the nostrils. One or two minutes after, there was noticed a slight gasp; jerky pressure was used on the chest wall very carefully, so that it coincided with the respiratory efforts; not as sometimes done in a haphazard fashion. The excitement of the moment sometimes led to an animal receiving a pressure on the chest as it was about to take an inspiration—the worst possible moment—and such cases pointed to the necessity of keeping one's head.

With regard to the use of local anæsthetics in connection with eye lotions, he would say that he certainly employed such anæsthetics where there was any irritation of the eye, but he preferred to use liquid extract of belladonna, half a dram in a 6-oz. bottle of eye lotion. He considered sulphate of zinc and boracic acid the best eye lotion for general purposes. He preferred belladonna to cocaine, the effect of the latter passing off in in 20 to 30 minutes, whereas the effect of belladonna would often last twenty-four hours. If cocaine be desired its rapid effect could be combined with the prolonged effect of belladonna, by using cocaine and atropine. This did equally well when examining the interior of the eye-ball in horses for cataract, etc. Mr. Jones had enquired whether morphia was an anæsthetic for horses; it was not, but it was a narcotic, and probably Mr. Jones intended to use the latter word. (Mr. Jones replied that that was so). Continuing, the Professor said that this again was a matter of idiosyncracy. With the majority of horses morphia was a narcotic. He had constantly used it in about seven grain doses in the treatment of suitable cases of colic; he seldom used 10 or 12 grain doses, but was convinced of its beneficial effects, and rather surprised that Mr. Jones had had such consistently bad results, as well as of the disuse of it by Mr. Trigger. He did not know how much Mr. Trigger had formerly used; he had found 6 or 7 grain doses give good results. Some of the bad results were due to using old and deteriorated stock solutions. In cases of colic, where he had reason to expect constipation, he avoided morphia or any of its derivatives, which only increase constipation. The action of morphia was, however, borne out by the use of it in shoeing, and Mr. Price has also mentioned the advantages of administering two drachms of powdered opium to kicking horses to facilitate shoeing.

Mr. PRICE proposed, and Mr. WILLETT seconded a hearty vote of thanks to Prof. Wooldridge for his paper. This was carried, and acknowledged by Prof. Wooldridge.

Mr. WILLETT congratulated the President on his able conduct of the affairs of the Society during his occupation of the chair. If the attendance had not been so large as in former years that was only attributable to the unfortunate war and the absence of many fellows on active service. He proposed a hearty vote of thanks to the President, which was seconded by Mr. F. G. Sampson, and carried unanimously. The President suitably acknowledged.

Mr. MCINTOSH proposed a vote of thanks to the Secretary for the energetic way he had discharged his duties. The Secretary, he hoped was a permanent official, as he had displayed continuous interest in the work of the Society. To this vote of thanks the speaker wished to couple the name of the Treasurer.

Prof. WOOLDRIDGE supported the expression of thanks to Mr. MacCormack and the Treasurer, and had pleasure in seconding the proposal, which was carried unanimously, and acknowledged by Mr. MacCormack.

HUGH A. MACCORMACK, Hon. Secretary.

ERRATUM.—In the list of officers R.C.V.S. on p. 54 of last week's issue, the names of Vice-Presidents should have been altered to J. McKinna, J.P., and W. Shipley.

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1916 to the College funds:—

A. Bostock, Major A.V.C.	£1	1	0
F. U. Carr, Major A.V.C.	1	1	0
F. Fail, Major A.V.C.	1	1	0
H. H. Hide, Lower Edmonton	1	1	0
A. P. Logan, Ballyclare	1	1	0
Thos. Ludlow, Mansfield	1	1	0
Alex. Monro, Capt. A.V.C.	1	1	0
Alex. Neish, West Hampstead, N.W.	1	1	0
John Pollard, Capt. A.V.C.	1	1	0
H. P. Standley, Norwich	1	1	0
J. M. Tate, Capt., Pretoria	1	1	0
J. Tillyard, Major A.V.C.	1	1	0
Thos. Wilkinson, Jun., Lanchester	1	1	0
J. B. Young, Braintree	1	1	0
Previously reported	693	18	6
	£708	12	6

Anglo-Franco-Belgian Veterinary Relief Fund.

The following additional donations are reported:—

A. P. Logan, Ballyclare	£1	1	0
S. H. L. Woods, Capt. A.V.C.	1	1	0
Previously reported	210	9	3
Total	£212	11	3

ROYAL (DICK) VETERINARY COLLEGE, EDINBURGH.

The report of the Principal, Dr. O. Charnock Bradley, on the work of the College during session 1915–16 was submitted at a recent meeting of the Board of Governers.

As was expected, the effect of the war has been more marked than in the preceding session, but the number of new entrants was rather in excess of that of the previous session. It is impossible to say how many prospective students, who would have entered under normal conditions, postponed doing so until after the war; but that some did so is known with certainty. The number of students at present on military service is 36. Members of the staff are also away; but it has been possible to carry on the work with efficiency, thanks to the cordial co-operation of those who have been left behind.

All graduates who have obtained the diploma of M.R.C.V.S. since the outbreak of war now hold commissions in the Army Veterinary Corps.

At the beginning of the spring term in January, classes of the first three years of study were transferred from the old buildings in Clyde Street to the new College at Summerhall, and at the beginning of the summer term in April the transfer of the College was completed.

The results of the professional examinations have been more than usually good. The percentage of passes at all the professional examinations, taken together, has been 87.5.—*North British Agriculturist.*

ARMY VETERINARY SERVICE.

Extracts from *London Gazette*,

WAR OFFICE, WHITEHALL, July 26.

REGULAR FORCES. ARMY VETERINARY CORPS.

Temp. Lieuts. to be temp. Capts.:—C. W. B. Sikes (June 21); J. F. Thurston, N. Brear (July 14).

July 27.

To be temp. Qmr. with hon. rank of Lieut.:— W. Hollis (July 22).

July 29.

Capt. to be Major:—(A. J. Dalgleish (July 13).

To be temp. Lts:—M. J. Flynn, T. Morland (July 17).

Aug. 1.

Late temp. Lieut. to be temp. Capt.: B. P. Boyle (July 17).

Temp. Lts. to be temp. Capts.:—D. H. Wood, V. Boyle, H. V. M. Metivier, W. E. Armstrong (July 19); W. A. Macgregor, F. J. Adams (July 20).

Temp. Lt. J. Nagle relinquishes his commn. (May 18).

Aug. 2.

Temp. Lieut. W. Norrish relinquishes commn. (Aug. 3).

To be temp. Lieut.:—P. W. Walker (July 21).

SPECIAL RESERVE OF OFFICERS.

July 27.

Lieut. J. M. Knighton is confirmed in rank, and to be Capt. (Jan. 6).

Aug. 1.

Lieut. (on prob.) T. A. Dobie is confirmed in his rank.

Lieuts. to be Capts.:—T. Menzies (Apl. 7;) P. Howard (May 10); T. A. Dobie (July 16); G. E. Oxspring (July 19); P. R. Turner, R. J. Stow, W. Shipley (July 21).

To be Lieut. (on prob.) —G. H. Bennet (July 17).

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

July 29.

Lieut. to be Capt.:—W. Hall (July 15).

Aug. 2.

Lieut. to be Capt.:—A. Whitehead (Apl. 29).

Sir William Power

Sir William Henry Power, K.C.B., F.R.S., F.R.C.S., formerly principal medical officer to the Local Government Board, died on Friday, July 28, aged 73 years.

He received his medical education at St. Bartholomew's. Sir William was appointed an inspector of the Local Government Board in 1871, and for many years devoted himself to the investigation of the problems involved in outbreaks of infectious diseases. To him was largely due the elucidation of the facts concerning the spread of diphtheria by the agency of milk, and of the necessity for the early treatment of sore throat in children. Recognition of his services involved his transference to the headquarters of the Board, where he superintended the work of the medical staff and supervised the issue of many of its publications dealing with public health. In 1907, the year he was appointed chairman of the Royal Commission on Tuberculosis, the Royal Society, of which he was a Fellow, conferred on him the Buchanan medal, and a year later he was created K.C.B. He served as a member of the Royal Commission on Sewage Disposal, and of the Advisory Council for Research under the National Insurance Act.

THE NOTIFICATION OF ANTHRAX.—Replying recently in the House of Commons to a question, Mr. Long (President of the Local Government Board) said: The question of issuing an Order making all cases of anthrax compulsorily notifiable is under consideration.

Personal.

KEELING ROBERTS.—On the 23rd June, at The Mount, Church Stretton, the wife of Capt. H. Keeling Roberts (Veterinary Bacteriologist, Orange River Colony), of a son.

Mr. J. KERNOHAN, M.R.C.V.S., acted as one of the judges in the horse section, at the Letterkenny Agricultural Society's fourteenth annual show.

Mr. J. R. JACKSON, of Coleraine, was awarded a third in the class for hunters of four years and over, at the show of the Tyrone Farmers' Society last month.

THE R.C.V.S. AND MELBOURNE UNIVERSITY.

Sir,—I desire in the first place to thank you for your courtesy in publishing the full text of the application made on behalf of the Veterinary Graduates of the University of Melbourne, and also for the very fair statement of the case in your editorial article.

Then, Sir, I wish to make one or two comments on this article, to enable your readers to approach this subject with more knowledge than the application by itself provides.

As you rightly state, there must be no recognition by the R.C.V.S., except with full assurance that the diploma of the school recognised provides "a sufficient guaranty of the possession of the requisite knowledge and skill."

Dealing with the specific case of Melbourne University you observe, "Five years ago our Council refused to recognise the Melbourne Degree *on account of the University's examination system*" (the italics are mine, H.A.W.). This statement is clearly in line with the Council's letter incorporated, as Appendix I., in the application, and that fact explains why the application does not contain any exhaustive or detailed account of the Melbourne curriculum. Thus your remark that "so far the University seems to have given little information regarding these matters" is not quite correct. Considerable information was supplied five years ago, and only because the Council in their considered grounds of refusal of the application of 1911 made particular mention of the examination system, and practically no mention of the educational system of the University of Melbourne, does the present application deal chiefly with examination methods and the value of diplomas.

If one may venture a criticism of the policy and habit of mind of the R.C.V.S., it is on this very point—that they are too much concerned about examinations and too little concerned about sound education, both as to matter (*i.e.* Syllabus), and as to method (*i.e.* teaching and educational equipment of the affiliated Schools).

But, Sir, I rejoice to read your sentence, "Tuition is more valuable than examination; and methods of working are more important than systems of appointment." If that is to be the test of our right to recognition, then I have no fear. With your permission I shall hope in the near future to supply Members of the R.C.V.S., your readers, with full details of the subjects taught and some evidence of the standard and thoroughness of the teaching. On this point I will only say further that the Committee appointed by the R.C.V.S. has an unique opportunity of investigating the matter, because there are within easy reach of London a number of persons, members of the Australian A.V.C. and graduates of the Melbourne School, as well as the writer, for the time being the person largely responsible for the work of the School. The evidence of these persons is at the disposal of the Committee if and when they desire it.

One slight criticism of your statement that "as the present conditions of examination (*i.e.*, by the R.C.V.S.) are only temporary ones, reluctantly adopted for financial reasons, it is difficult to allow them any argumentative weight." Now, Sir, either the present method, for whatever reason adopted, is "*a sufficient guaranty of the possession of the requisite knowledge and skill*" of the successful candi-

dates, or it is not. If it be allowed that it is, that fact must surely have very considerable argumentative weight.

I am, Sir, yours, etc.,

1st Aug., 1916. HAROLD A. WOODRUFF.

[With reference to our note on the italics in appendix I. (p. 49 last week), it has been intimated that they did not appear in the original letter.]

LOCAL ANÆSTHESIA.

Dear Sir,—In your issue of the 22nd inst. an abstract of a paper on this subject, by Prof. Wooldridge, does not appear to be correct in every detail.

With reference to the injection of cocaine the Professor states that "In the small or so-called toy dogs 1-10th of a grain (*viz.*, 10 minims of one per cent. solution) for each pound body weight is usually quite safe." Now, I understand that one per cent. solution is approximately one grain in 110 minims (accurately, 1 grain in 109.7143 minims).

If that is correct, then 1-10th of a grain would be 11 minims one per cent. solution approximately. Similarly, instead of 40 minims of a five per cent. solution one must use 44 minims to contain two grains of cocaine.

Yours faithfully,

Cork, July 15th. M.R.C.V.S.

[This was unavoidably held over last week.—Ed.]

PETROL SUPPLIES.

Royal College of Veterinary Surgeons,
10 Red Lion Square, London, W.C.

Dear Sir,—You will have seen from the report of the Petrol Control Committee published to-day, that in the case of doctors' and veterinary surgeons' cars, the Committee has allotted the full amount demanded, up to a maximum of 50 gallons per month. In certain instances, however, I hear that members have been granted a permit for much smaller quantities, taxed at 6d. per gallon instead of 3d. In every case this is due to a clerical error, and I am informed by the Secretary of the Petrol Control Committee that if veterinary surgeons will return the incorrect Permit, stating that the petrol asked for is required for a veterinary practice, the matter will be rectified with as little delay as possible. The address of the Petrol Control Committee is 19 Berkeley Street, London, W.—Yours faithfully,

August 2nd, 1916. FRED BULLOCK, Secretary.

July 29th, 1916.

Dear Sir,—I am a country practitioner, my practice having a radius of 10 or 12 miles in an agricultural district. I do all my work by car, and the lowest I can possibly put my weekly mileage at is 200 miles, it is nearly always more.

I conscientiously indented for an allowance of a gallon a day (considerably less than I have been consuming) thinking I would get a bicycle to help me out.

To-day I received the information from the Petrol Control Committee that I am to be allowed 24 gallons for *three months* (two gallons a weeks), not fodder enough for a motor cycle could I ride one.

It appears to me that I must inform my own clients residing beyond a two miles radius that if they want me they must find the necessary conveyance, and the clients of absent colleagues that attendance is impossible, which seems hard.

Surely the Board of Agriculture should do something in this matter, anyhow so far as country practitioners are concerned.—Yours faithfully,

Bishop's Stortford. M.R.C.V.S.

Dear Sir,—I hold an Inland Revenue Licence for one motor car (not exc. 12 h.p.) at £3 3s., taken out 1st Jan., 1916. I have just sold that car and have a 12/15 h.p., for which a £4 4s. licence is necessary.

Now, what am I to do? Ought I to pay the extra guinea and claim for the return of two guineas, or will the three guinea licence carry me to the end of the year?

I have been in correspondence with the Local Taxation Officer, and he has no official intimation of the relief which we have received.

Possibly this letter may be read by a brother practitioner in a similar position, or perhaps, Mr. Editor, you will be able to advise me, for which I shall be most thankful.

In conclusion, may I ask another question: Why are we styled "Registered Veterinary Surgeons" in the clause which gives us Relief in Motor Car Licences and Petrol Duty? Why not "Qualified?"

Apologising. Thanks. Respectfully,

W. V. S.

[We regret that we are unable to give any reliable information on the first of these questions. A reply to an enquiry addressed to the Petrol Board is an almost unheard-of event in these days; and the instructions issued to the authorities who collect the tax appear to be equally inaccessible.

Qualification and Registration are the two essentials for a Registered Veterinary Practioner. Qualification is provided for by the Charters and Bye-laws, but Registration is a Statutory requirement under the Veterinary Surgeons Act, 1881, and no man whose name is not on the Register R.C.V.S. may call himself a Veterinary Surgeon, nor can he sue for fees in a court of law. *The Register* is the only legal evidence that a man is qualified to practise. Hence Registered Veterinary Surgeon is the correct description.]

PARLIAMENTARY.

PETROL SUPPLIES AND DISTRIBUTION.

On the motion for the third reading of the Consolidated Fund (No. 4) Bill, in the House of Commons, on Tuesday, Mr. L. Harcourt, in the course of a speech said:—

The object of the Petrol Committee was to ladle out the available supply to the last pint in appropriate quantities to the best national advantage. The requirements of the Army and Navy were immeasurably greater than they had been last year, and they must be met. The problem was to see that the remainder was equitably distributed. Distribution by quantity, and not by price, was decided upon; otherwise commercial vehicles, omnibuses, and taxi-cabs would not have been able to secure a supply. The total civilian consumption last year was 111,000,000 gallons. The civil requirements in the returns made in the recent census were stated at 153,000,000 gallons. The number of commercial vehicles in use had increased greatly owing to horses and men having been taken for the army. Private cars had decreased in number, partly, he hoped, because it was felt that joy rides were shame rides. The Committee received demands for 324,000 licences, representing a much larger number of vehicles. The Committee's post yesterday morning brought over 20,000 letters. He hoped it would be possible to give further consideration to particular classes and individual cases when time and petrol permitted; but at the start the Committee were bound to take the available reserve after the needs of the Forces had been met, and to apportion it according to national necessity. The quantity demanded by the civilian population in the returns was 153,000,000 gallons. There was available 70,000,000 gallons, and the Committee had issued licences for 75,000,000 gallons, so that they had already outrun the constable. Allotments had been made in the following method:—In respect of commercial cars and for industrial processes, 60 per cent. of the quantity

demanded; taxicabs, omnibuses, and public vehicles, 50 per cent.; doctors' and veterinary surgeons' cars, the full amount demanded up to a maximum of 50 gallons per month; private cars, 25 per cent. with a maximum of 30 gallons per month; and motor-cycles 2 gallons per month. The petrol available for a month's distribution was 6,300,000 gallons, and this would be distributed among the several classes thus:—Commercial cars, 2,100,000 gallons; industrial processes, 812,500 gallons; cabs and omnibuses, 2,087,500 gallons; doctors' and veterinary surgeons' cars, 418,750; private cars, 700,000 gallons; and motor-cycles, 181,250 gallons. The carriage of munitions in this country was essential and would be provided for even if that entailed the total stoppage of private cars and cabs and omnibuses. The quantity asked for for private cars was 2,800,000 gallons, and only 700,000 gallons were available for them, or rather less than 7 gallons per month for each car. Proof of the general honesty of the returns might be found in the fact that in 85 per cent. of the cases quantities of only 8 to 24 gallons per month were asked for. Those owners who demanded 8 gallons would get 75 per cent. of what they asked for, those who demanded 16 gallons 50 per cent., those who demanded 24 gallons 33 per cent., and those who demanded over 32 gallons only 25 per cent., and nobody, whatever he asked for, would get more than 30 gallons per month.

Prosecution under the Coal Mines Act.

The Blaenavon magistrates heard summonses on 25th ult., for breaches of Coal Mines Regulation Act against the Blaenavon Company (Limited), Frederick Kemp Cartwright, the agent, and Theophilus Jones, manager, and three horsekeepers, Henry Morgan, James Hughes, and Henry Fry. Mr. H. S. Lyne, solicitor, Newport, by whom were seated Dr. Atkinson, chief inspector of mines, and Mr. T. Greenland Davies prosecuted for the Home Office. Mr. A. J. Prosser, Aberdare, represented the company and officials, and Mr. E. Chas. Jones, Newport, appeared for the horsekeepers.

The company and officials were alleged to have on April 12 worked certain horses in an unfit state, without eye-guards, and failing to have a keeper with every fifteen horses. It was alleged against the manager that he failed to see that every horsekeeper kept a record of the horses condition and the hours during which they worked, and, further, that he took into the colliery a horse not four years of age.

Mr. Evan Philip Evans, consulting veterinary surgeon to the Home Office, stated that a proper description of the horses' condition would be that they were living skeletons. Not one of those mentioned as unfit was fit for work.

The Manager admitted that certain horses might not have been in proper condition, but did not agree they were "living skeletons." Allegations of cruelty were denied.

The company was fined £10 for working the horses in an unfit state, Mr. Frederick Kemp Cartwright was fined 40s., and the manager (Mr. Theophilus Jones) £5, and a further 20s. for not exercising proper supervision, and 20s. for failing to provide a supply of fresh water. Hughes was fined 40s. for allowing the horses to be worked in an unfit state, and all the other summonses were dismissed.—*Western Mail.*

DISEASES OF ANIMALS ACTS 1894 TO 1914, SUMMARY OF RETURNS.

Period.	Anthrax		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange. ‡		Sheep Scab.	Swine Fever.	
	Out-breaks (a)	Animals.	Out-breaks (a)	Animals.	Out-breaks (b)	Animals.	Out-breaks (b)	Animals.	(b)	Out-breaks (a)	Slaughtered. *
GT. BRITAIN. Week ended July 29	3	3			1	1	22	37		72	54
Corresponding week in 1915 ...	2	3			2	4	20	40		60	172
Corresponding week in 1914 ...	2	2			3	3	27	34		82	913
Corresponding week in 1913 ...	6	6			5	7	26	33		58	1001
Total for 31 weeks, 1916	348	409	1	24	33	85	1635	3699	178	3042	8439
Corresponding period in 1915 ...	393	451			34	63	‡540	‡1179	159	2747	12360
Corresponding period in 1914 ...	482	522	11	74	68	212	1503	2613	150	2599	27518
Corresponding period in 1913 ...	351	384			107	281	1819	3710	124	1532	20720

‡ The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive.

(a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked:—London 1

Board of Agriculture and Fisheries, August 1, 1916 Excluding outbreaks in army horses.

IRELAND. Week ended **July 22**	...	...	...	...	...	...	Outbreaks 2	8	6	57
Corresponding Week in 1915 ...	...	...	...	...	...	...	...	2	5	23
Corresponding Week in 1914 ...	...	...	...	...	...	...	1	9	5	22
Corresponding Week in 1913 ...	...	...	...	...	...	...	...	11	4	11
Total for 30 weeks, 1916 ...	3	7	...	...	...	...	43	248	195	1138
Corresponding period in 1915 ...	1	1	...	...	...	...	44	264	159	894
Corresponding period in 1914 ...	1	1	76	957	...	...	54	370	138	709
Corresponding period in 1913 ...	...	...	...	...	...	..	98	351	97	575

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, July 24, 1916.

NOTE.—The figures for the Current Year are approximate only. * As diseased or Exposed to Infection